

Device for monitoring an air supply flow or a volumetric air  
flow

5

## CLAIMS

10 1. Device (1) for monitoring an air supply flow or a volumetric air flow (2), in particular in ventilators, wherein

- the device (1) comprises an approach-flow component (3), the position of which with respect to a holder can be changed against a retaining force  $F_M$ ;
- the approach-flow component (3) can be struck by an air flow (2) that is to be monitored, so as to produce a change in its position;
- magnet components (4) are provided to produce a magnetic field that depends on the position of the approach-flow component (3);
- detection means are provided to detect a magnetic field;
- measurement means (9) are provided to generate a measurement signal that depends on the magnetic field; and
- the magnetic field forms at least part of the retaining force  $F_M$ .

25 2. Device according to Claim 1, characterized in that the magnet components comprise a permanent magnet (4).

30 3. Device according to Claim 2, characterized in that the permanent magnet (4) is attached to the approach-flow component (3).

4. Device according to Claim 1 or 2,  
characterized in that the permanent magnet (4) is fixedly  
attached to the holder (13) and a magnetic, in particular  
ferromagnetic element is attached to the approach-flow  
5 component (3).

5. Device according to one of the preceding claims,  
characterized in that the approach-flow component comprises a  
flap (3) rotatably suspended in such a way that the air flow  
(2) exerts a moment of torque on the flap (3), about its axis  
10 of suspension.

6. Device according to one of the preceding claims,  
characterized in that the approach-flow component (3) is  
provided with at least one counterweight or similar mass-  
compensating element, so that it can be installed regardless of  
15 the force of gravity and of its position.

7. Device according to Claim 6,  
characterized in that the approach-flow component (3) is  
eccentrically seated and a larger area portion (7) of the  
approach-flow component (3) is provided as counterweight.

20 8. Device according to Claim 6 or 7,  
characterized in that the counterweight also comprises at least  
parts of the magnet components (4).

9. Device according to one of the preceding claims,  
characterized in that the measurement means comprise a reed  
25 contact (10), which is disposed in a reed-contact switch (9).

10. Device according to Claim 9,  
characterized in that the reed-contact switch (9) is disposed  
in such a way that in the magnetic field it generates at least  
part of the retaining force  $F_M$ .

11. Device according to one of the preceding claims, characterized in that adjustment components are provided so that the retaining force  $F_M$  can be adjusted.
12. Device according to Claim 11, 5 characterized in that the adjustment components comprise additional magnetic, in particular ferromagnetic elements that can be brought into the magnetic field.
13. Device according to Claim 11 or 12, 10 characterized in that the reed-contact switch (9) can be adjusted with respect to its distance from the permanent magnet (4) in order to constitute the adjustment components.
14. Device according to one of the claims 11 to 13, characterized in that an effective area of the approach-flow component (3) can be altered.
15. 15. Device according to Claim 14, 15 characterized in that the housing (13) is constructed in such a way that the effective area of the approach-flow component (3) can be altered by way of the holder constructed as housing (13).
- 20 16. Device according to Claim 9 or 10, characterized in that the approach-flow component (3) is mounted in such a way that it is in the resting state when the permanent magnet (4) is retained by the retaining force  $F_M$  at the shortest distance to the reed-contact switch (9).
- 25 17. Device according to one of the preceding claims, characterized in that the measurement means (9) are disposed in the holder constructed as housing (13).